Docket No.: A-2829

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MAIL STOP: APPEAL BRIEF-PATENTS

By: _____ Date: September 26, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before the Board of Patent Appeals and Interferences

Applic. No.	:	09/852,348 Confirmation No.:4692
Inventor	:	Lutz Richter
Filed	:	May 9, 2001
Title	:	Gathering Stapler with Separate Drives and Method of Operating the Gathering Stapler
TC/A.U.	:	3721
Examiner	:	Gloria R. Weeks
Customer No.	**:**	**24131**

Hon. Commissioner for Patents
Alexandria, VA 22313-1450

BRIEF ON APPEAL

S i r :

This is an appeal from the final rejection in the Office action dated June 1, 2005, finally rejecting claims 6, 8, 10-12, 14 and 20-25.

Appellants submit this *Brief on Appeal* in triplicate, however, no fee is submitted herewith as the case was previously on appeal and removed by the Examiner. Whether

appellant elects to continue prosecution or to request reinstatement of the appeal, if prosecution was reopened prior to a decision on the merits by the Board of Patent Appeals and Interferences, the fee paid for the notice of appeal, appeal brief, and request for oral hearing (if applicable) will be applied to a later appeal on the same application (MPEP 12.81). Therefore, no fee is submitted herewith. If necessary, please charge any fee which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner & Greenberg P.A., No. 12-1099.

Real Party in Interest:

This application is assigned to Heidelberg Druckmaschinen AG of Heidelberg, Germany. The assignment will be submitted for recordation upon the termination of this appeal.

Related Appeals and Interferences:

No related appeals or interference proceedings are currently pending which would directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

Status of Claims:

Claims 6, 8, 10-12, 14 and 20-25 are rejected and are under appeal. Claims 1-5, 7, 9 and 13 were cancelled in an amendment dated September 8, 2003. Claims 15-19 are withdrawn from further consideration.

Status of Amendments:

No claims were amended after the final Office action. *A Notice of Appeal* was filed on July 28, 2005.

Summary of the Claimed Subject Matter:

As stated in the first paragraph on page 1 of the specification of the instant application, the invention relates to a gathering stapler which has at least the

following subassemblies: collecting chain, stapling carriage, stapling-displacement configuration, ejector, and delivery.

Appellants explained on page 12 of the specification, line 25, that referring now to the figures of the drawing in detail and first, particularly, to Fig. 1 thereof, there is seen a representative example of a gathering stapler with separate drives. A drive motor M1 drives a stapling carriage 3 by means of a crank 1 and a connecting rod 2. The stapling carriage 3 is mounted on a rectilinear thrust mechanism 4. A crank 5 and a connecting rod 6 make it possible for a blade carriage 7 to be moved horizontally back and forth along a rectilinear thrust mechanism 8. A drive motor M2 is provided for a collecting chain. The collecting chain 13 is driven by means of the toothed-belt wheel 9, i.e., a sprocket 9, a toothed belt 10, a toothed-belt wheel 11, and a chain wheel 12.

Appellants further explained on page 13 of the specification, line 12, that, provision is made for the two motors M1 and M2 to be activated such that the movements of the stapling carriage B1 and of the collecting chain B2 are coordinated or synchronized with one another. For this purpose, those speed profiles of the movements of the stapling elements and of the collecting chain B2 which are necessary for the stapling process are adapted to one another: as has already been

mentioned, the period in which the stapling heads and the collecting chain are at essentially the same speed in terms of magnitude and direction is selected to be as large as possible.

Appellants outlined on page 13 of the specification, line 23, that, since the speed profile of the collecting chain B2 is more or less constant, it is possible, in principle, to utilize the corresponding motor M2 as a power source for the rest of the necessary movements. Advantageously, however, a further motor M3 is also provided for the stapling-displacement configuration B3 in order to allow, by means of a corresponding control means, a variable stapling-displacement profile or a stapling interruption. The gear mechanism 14, the toothed-belt wheel, the toothed belt 16, the toothed-belt wheel 17, the cam plates 18 and 19, the lever 20 and the tie rods 21 move the pushers 22, 23.

Appellants stated on page 14 of the specification, line 9, that the drive motor M4 is provided for the delivery B4. The vertical movement of the ejector blade is realized with the aid of the drive motor M5 for the ejector B5. Depending on the format of the product to be processed and on the number of cycles, the movements of these subassemblies B4 and B5 may be coordinated with one another, with the result that it is

possible to realize advantageous movement sequences, such as a quick drawing-off operation or an ejecting operation with delay.

Appellants mentioned on page 14 of the specification, line 19, that Fig. 1 further includes a diagrammatic illustration of a central control device 36, which effects the controlled driving of the stapler assembly according to the invention. Each of the motors M1 ... M5 has associated therewith a separate control unit. In this case, the individual control units are illustrated as part of the central control device 36. They may, however, be located directly at the respective motor and form part of the motor assembly. The control units also include, or are connected to, respective devices that detect the rotational position (angular position sensor, rotation sensor) and or the rotational speed of the motors.

Appellants described on page 15 of the specification, line 5, that the control units also include input/output units which allow programmable control of the drives. The control units may primarily be formed as motor controllers and/or a motor-control end stage. The central control device 36 also has a display device 37 (e.g. a computer screen) and an operating panel 38, including a keyboard, or the like.

Appellants further stated on page 16 of the specification, line 9, that Fig. 5 shows the drive for the drawing-off elements of the delivery B4. The motor M4 drives the toothed belt 25 by means of a toothed-belt wheel 24. The transmission of force to the toothed-belt wheel 26 results in a rotational movement of the roller 27. At the same time, the toothed-belt wheel 28 causes the roller 29 to rotate in order, with the aid of the belts 30, to receive the ejected copies.

Appellants further outlined on page 16 of the specification, line 17, that Fig. 6 shows the drive of the ejector B5. The motor M5 causes a toothed-belt wheel 31 to rotate. The toothed belt 34 is driven via the toothed belt 32 and the gear mechanism 33. The toothed belt 34 realizes the vertical oscillation movement of the ejector blade 35, i.e., the ejector stroke.

References Cited:

5,816,467	Dunn	October 6, 1998
6,142,353	Boss et. al	November 7, 2000
6,220,494	Raffoni	April 24, 2001

Grounds of Rejection to be Reviewed on Appeal

1. Whether or not claims 6, 12, and 20-23 are obvious over Boss et al. (U.S. Patent No. 6,142,353) (hereinafter "Boss") in view of Raffoni (U.S. Patent No. 6,220,494 B1) under 35 U.S.C. §103.

2. Whether or not claims 8, 10, 11, and 14 are obvious over Boss (U.S. Patent No. 6,142,353) in view of Raffoni (U.S. Patent No. 6,220,494 B1) and further in view of Dunn (U.S. Patent No. 5,816,467) under 35 U.S.C. §103.

3. Whether or not claims 21, 22, 24, and 25 are obvious over Boss (U.S. Patent No. 6,142,353) in view of Dunn (U.S. Patent No. 5,816,467) under 35 U.S.C. §103.

4. Whether or not the references Boss (U.S. Patent No. 6,142,353) and Raffoni (U.S. Patent No. 6,220,494 B1) can be properly combined under 35 U.S.C. §103.

Argument:

Claim 20 is not obvious over Boss in view of Raffoni under 35 U.S.C. §103:

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 20 calls for, *inter alia*:

an ejector adapted for operatively oscillating in parallel with the conveying strand for running in synchronicity with the conveying strand in the conveying direction within certain time segments and for operatively oscillating between the conveying strand and the delivery within a path rectilinear to the conveying strand within certain time segments.

The Boss reference discloses a gathering stapler with a common drive for which the motion of the individual components is obtained by using interconnected corresponding gear units. There is **no disclosure** or suggestion in Boss concerning the use of separate drives for the individual components.

The only commonality between the invention of Boss and the present invention is that both are gathering staplers. Furthermore, it is known to a person of ordinary skill in the art that gathering staplers run at speeds in excess of 14,000 cycles per hour. This high speed is one of the most important reasons that the synchronization of the individual components is of the utmost importance. A crash at such high speeds would cause great damage to the product handled by the stapler and might even damage the stapler itself. Therefore, a person of ordinary skill in the art knows that synchronization must

be extremely precise and is unlikely to stray from a mechanical interconnection of the individual components.

The Raffoni reference discloses a device for manufacturing picture frames. The operation of which is entirely different than that of the present invention. The device disclosed by Raffoni hardly comes close to the production velocities required by a gathering stapler. Therefore, because of the considerable difference in the two technologies, a person of ordinary skill in the art of gathering staplers **would not** consider the teaching of a device for making picture frames, as disclosed by Raffoni.

The Examiner stated on page 3 of the Office action dated June 1, 2005, that Raffoni teaches an ejector, namely a conveyor downstream of belt (2). This is shown in Fig. 5 of Raffoni as a turntable (41) or a conveyor (43).

However, claim 20 of the instant application recites an ejector adapted for operatively **oscillating** in parallel with the conveying strand for running in synchronicity with the conveying strand in the conveying direction within certain time segments and for operatively **oscillating** between the conveying strand and the delivery **within a path rectilinear to the conveying strand** within certain time segments.

The Raffoni reference does not disclose any **oscillation** motion or **perpendicular** motion (up/down) of the turntable to a conveying strand. Therefore, contrary to the Examiner's position, the turntable of Raffoni **is not** an ejector as recited in claim 20 of the instant application.

Accordingly, Raffoni does not disclose an ejector adapted for operatively **oscillating** in parallel with the conveying strand for running in synchronicity with the conveying strand in the conveying direction within certain time segments and for operatively **oscillating** between the conveying strand and the delivery **within a path rectilinear to the conveying strand** within certain time segments, as recited in claim 20 of the instant application.

Moreover, the Examiner's comments on page 3 of the Office action dated June 1, 2005, that the conveyor downstream of (2) is an "ejector" are not correct. The words "eject" and "convey" do not have the same meaning. Although both words concern the movement of items, the movement is not similar at all. Equivalent meanings of "eject" are "force or thrust out" or "expel" (Webster's Third New International Dictionary). Figs. 5 and 6 and page 16, lines 9-21, especially lines 13-15 of the instant application disclose that "at the same time the

toothed-belt wheel 28 causes the roller 29 to rotate in order, with the aid of the belts 30, to receive the ejected copies." Accordingly, the copies are not merely "transported" or "conveyed", they are actually thrust upward by the ejector and caught by the belts and rollers. Therefore, the conveyor of Raffoni is not an ejector as recited in the claims of the instant application. While **Boss** does disclose an ejector that performs a movement similar to the ejector of the instant application, the Boss reference **does not** disclose a separate drive for the ejector.

Claim 20 of the instant application also calls for, *inter alia*:

a stapling carriage assigned to the conveying strand and operatively **oscillating** in parallel with the conveying strand for running in synchronicity with the conveying strand in the conveying direction within certain time segments.

The Raffoni reference does not disclose any **oscillating** motion of a carriage. The Raffoni reference does not disclose a carriage running in synchronicity with a conveying strand.

Raffoni does not disclose the use of a motor to actuate the conveyor. Furthermore, Raffoni is silent about the feature of

"time segments" as well. Also, Raffoni is silent about the synchronicity of individual components.

Based on the above-given remarks, it is seen that claim 20 is not obvious over Boss in view of Raffoni. Since claim 20 is allowable, dependent claims 6, 12, and 21-23 are allowable as well.

Boss and Raffoni cannot be properly combined under 35 U.S.C. §103:

Although Raffoni may disclose some common features of the claimed invention, namely a staple head, the use of drives in Raffoni would not provide motivation for a person of ordinary skill in the art to modify Boss.

More specifically, a combination of Boss and Raffoni is not likely due to the speed involved in a gathering stapler as disclosed in Boss. Boss discloses that gathering staplers can run up to 18,000 cycles per hour (column 1, line 45 of Boss). Accordingly, an ejector in a gathering stapler has to perform 18,000 ejector strokes in an hour. This corresponds to five strokes a second. Therefore, the ejector has t be accelerated and decelerated five times a second in each direction horizontally along the gathering chain and the ejector blade

has to perform the ejection stroke five times a second in the vertical direction. The forces acting on the ejector are thus around 9-10 g. A person of ordinary skill that is aware of these high forces and who is aware of the need for synchronization between the ejector blade and the other movements of the gathering stapler is not provided with any motivation to add a drive to the ejector that has to withstand the same forces. This is especially true because the synchronization can be much more easily achieved by a direct coupling with a main drive as is already disclosed in Boss.

Raffoni does not disclose an ejector adapted for operatively **oscillating** in parallel with the conveying strand for running in synchronicity with the conveying strand in the conveying direction within certain time segments and for operatively **oscillating** between the conveying strand and the delivery **within a path rectilinear to the conveying strand** within certain time segments, as recited in claim 20 of the instant application. This is especially true because Raffoni does not disclose an oscillating movement of the conveyor. Keeping in mind that Raffoni discloses manufacturing of picture frames, there is no motivation to combine Boss and Raffoni.

Furthermore, a critical step in analyzing the patentability of claims pursuant to 35 U.S.C. § 103 is casting the mind back to

the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See In re Dembiczak, 175 F.3d 994, 50 USPQ2d 1614, (Fed. Cir. 1999). Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." Id. (quoting W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983)).

Most if not all inventions arise from a combination of old elements. See In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453,1457 (Fed. Cir. 1998). Thus, every element of a claimed invention may often be found in the prior art. See id. However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. See id. Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the appellant. See In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 163.5, 1637 (Fed. Cir. 1998);

In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125,1127 (Fed. Cir. 1984).

The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved. See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. In addition, the teaching, motivation or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references. See WMS Gaming, Inc. v. International Game Tech., 184 F.3d 1339, 1355, 51 USPQ2d 1385, 1397 (Fed. Cir. 1999). The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981) (and cases cited therein). Whether the examiner relies on an express or an implicit showing, the examiner must provide particular findings related thereto. See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. Broad conclusory statements standing alone are not "evidence." Id. When an examiner relies on general knowledge to negate patentability, that knowledge must be articulated and placed on the record. See In re Lee, 277 F-3d 1338, 1342-45, 61 USPQ2d 1430, 1433-35 (Fed. Cir. 2002).

Upon evaluation of the examiner's comments, it is respectfully believed that the evidence adduced by the examiner is insufficient to establish a prima facie case of obviousness with respect to the claims. Applicants respectfully believe that any teaching, suggestion, or incentive possibly derived from the prior art is only present with hindsight judgment in view of the instant application. "It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps. . . . The references **themselves** must provide some teaching whereby the applicant's combination would have been obvious." In re Gorman, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991) (emphasis added). Here, no such teaching is present in the cited references.

Based on the above provided comments, it is appellants' position that there is no connection between Boss and Raffoni. Therefore, a person of ordinary skill in the art is not given any motivation to combine Boss and Raffoni.

Claims 8, 10, 11, and 14 are not obvious over Boss (in view of Raffoni and further in view of Dunn under 35 U.S.C. § 103:

Dunn does not make up for the deficiencies of Boss and Raffoni. Since claim 20 is allowable, dependent claims 8, 10, 11, and 14 are allowable as well.

Claims 21, 22, 24, and 25 are not obvious over Boss in view of Dunn (U.S. Patent No. 5,816,467) under 35 U.S.C. § 103:

Claim 20 was rejected using Raffoni in addition to Boss. Therefore, it is not seen how claims 21, 22, 24, and 25, dependent on claim 20, can be rejected without Raffoni. Nevertheless, Dunn does not make up for the deficiencies of Boss. Since claim 20 is allowable, dependent claims 21, 22, 24, and 25 are allowable as well.

Based on the above given comments, the honorable Board is therefore respectfully urged to reverse the final rejection of the Primary Examiner.

Respectfully submitted,

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Claims Appendix:

6. The gathering stapler according to claim 23, which comprises a central control device controlling said motor control units.

8. The gathering stapler according to claim 23, wherein at least one of said motor control units includes a microprocessor.

10. The gathering stapler according to claim 23, wherein at least one of said motor control units has a programmable control device for said motor of a respective one of said drives.

11. The gathering stapler according to claim 23, wherein at least one of said motor control units has an input/output unit for programmable control.

12. The gathering stapler according to claim 23, wherein at least one of said motor control units comprises a motor controller and a motor-control end stage.

14. The gathering stapler according to claim 10, which further comprises a display device and an operating panel connected to said at least one motor control unit.

20. A gathering stapler, comprising:

a plurality of cooperating subassemblies including an operatively revolving endless chain having a conveying strand running in a conveying direction and conveying gathered folded sheets;

a stapling carriage assigned to said conveying strand and operatively oscillating in parallel with said conveying strand for running in synchronicity with said conveying strand in the conveying direction within certain time segments;

stapling heads mounted to said stapling carriage and adapted for ejecting staples;

a stapling displacement configuration adapted for activating said stapling heads for ejecting said staples;

a delivery;

an ejector adapted for operatively oscillating in parallel with said conveying strand for running in synchronicity with said conveying strand in the conveying direction within

certain time segments and for operatively oscillating between said conveying strand and said delivery within a path rectilinear to said conveying strand within certain time segments; and

a plurality of subassembly drives running in continuous operation;

at least some of said subassembly drives each including a controllable motor.

21. The gathering stapler according to claim 20, wherein a first one of said plurality of subassembly drives includes a controllable motor connected to said chain and a second one of said plurality of subassembly drives includes a controllable motor connected to said stapling carriage.

22. The gathering stapler according to claim 21, wherein a third one of said plurality of subassembly drives includes a controllable motor connected to said stapling displacement configuration.

23. The gathering stapler according to claim 20, including motor control units each connected to a respective one of said motors.

24. The gathering stapler according to claim 23, wherein at least one of said motor control units includes a revolution speed detector.

25. The gathering stapler according to claim 23, wherein at least one of said motor control units includes a phasing detector.

Evidence Appendix:

No evidence pursuant to && 1.130, 1.131, or 1.132 or any other evidence has been entered by the Examiner and relied upon by appellant in the appeal.

(if a 1.131 ore 32 Declaration was filed in this application, it must be appended to the Brief on Appeal).

Related Proceedings Appendix:

Since there are no prior or pending appeals, interferences or judicial proceedings which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal, no copies of decision rendered by a court or the Board are available.